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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,242	03/30/2004	Roger G. Sellers	71024-576	4836

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EXAMINER	
AMIRI, NAHID	

ART UNIT	PAPER NUMBER
3679	

MAIL DATE	DELIVERY MODE
05/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/813,242	SELLERS ET AL.	
	Examiner	Art Unit	
	Nahid Amiri	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

In view of Applicant's Amendment received 22 February 2007, amendments to the claims have been entered. Claim 12 is withdrawn. Claims 1-12 are pending.

Claim Rejections - 35 USC § 103

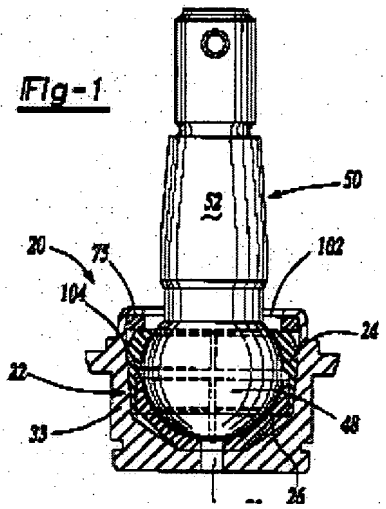
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

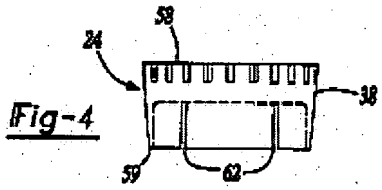
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,772,337 Maughan et al., in view of US Patent No. 2,507,087 Booth and further in view of US Patent No. 2,635,906 Graham et al.

With respect to claims 1-6 and 9, Maughan et al. disclose a ball joint (20, Figs. 1, 4, columns 2-3, lines 64-67, and lines 1-6) comprising a metal housing (22) having side wall (33) which defines a central bore (28) having a closed end and an open end; a lower bearing (26) disposed within said central bore (28) adjacent to the closes end; a movable member (50) having a head end portion (48) disposed in said central bore (28) and a shank portion (52) extending from said head end portion (48), the head end portion (48) engaging said lower bearing (26) in said central bore (28), said shank portion (52) being at least partially disposed outside of said central bore (28); an annular upper bearing (24) disposed about said movable member (50) within said central bore (28) adjacent the open end, said annular upper bearing (24) having an inner surface engaging said head end portion (48), an outer surface engaging said side wall (33), and a split segment (defined by segment between two slots 62) linking said inner surface with

said outer surface; an annular cover plate (75) disposed about said movable member (50) and secured within said central bore (28); the metal housing (22) further include an axial lubrication port (36) disposed in the closed end of the central bore (28); wherein the annular upper bearing (24) is configured to engage the side wall and the head end portion (48) simultaneously; wherein the annular upper bearing (24) is capable of being axially displaceable within the central bore (28); wherein the metal lower bearing (26) is retained with the central bore (28) by an interference fit; and wherein the lower bearing (26) includes at least one lubrication slot (82) disposed on an inner bearing surface, and the annular upper bearing (24) includes at least one lubrication slot (56) disposed on an inner bearing surface. Maughan et al. do not disclose that the lower and upper bearings are metal; and a spring member compressed between the annular cover plate and an upper surface of the annular metal upper bearing; annular cover plate and said spring member are composed of metal. Booth teaches a ball joint (Fig. 2) having a metal lower bearing (26, column 3, line 39) and a metal upper bearing (24, column 3, line 24). Graham et al. teach a joint ball (10, Fig. 3) having a annular metal cover plate (15), an annular upper bearing (13), and a metal spring member (14) compressed between the annular cover plate (15) and an upper surface of the upper bearing (13); wherein (column 3, lines 48-50) the spring (14) is capable of exerting an axial preload force on the annular metal upper bearing (13) towards the closed end of the central bore (28). It would have also been obvious to one of ordinary skill in the art at the time of invention was made to form the lower and upper bearings of Maughane et al. from metal as taught by Booth in order to provide good bearing engagement with the bore of the housing and meanwhile prevent any tilting or cocking of the rings in the housing. It would have also been obvious to one of ordinary skill in the art at the time of invention was made to provide the ball joint of Maughane et al. with a spring member compressed between the cover plate and upper surface of the upper bearing as taught by Graham et al. in order to urge the bearing wall of the bearing ring to maintain it against the ball end of the stud.





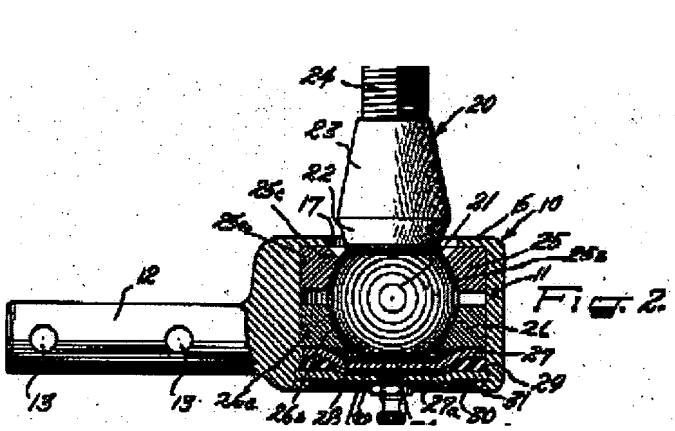
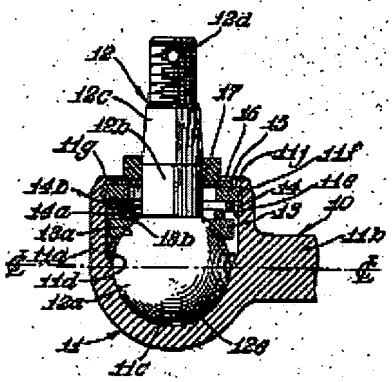


Fig. 2



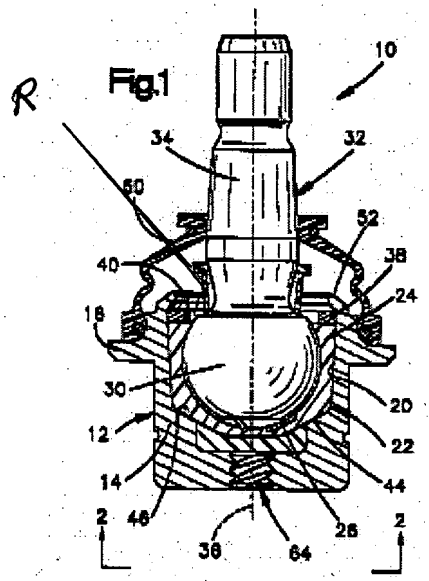
With respect to claim 10, Maughane et al. disclose (Fig. 2) that the housing (22) includes a deformable annular region adjacent the open end of the central bore (28); and the deformable annular region adapted for radially inward deformation to secure the annular cover plate (75) within the central bore (28).

With respect to claims 11, Maughane et al. disclose a claimed invention except that the annular cover plate including a chamfered inner surface to restrict articulation of the movable member. It would have been an obvious matter of design choice to provide the annular cover plate of Graham with a chamfered inner surface in order to restrict the movement between the movable member and the housing, since such a modification would have involved a mere change

in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose, 105 USPQ 237 (CCPA 1955).*

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maughane et al., Booth and Graham et al. as applied to claims 1-6 and 9-11 above, and further in view of US Patent No. 5,997,208 Urbach et al.

With respect to claim 7, Maughane et al. disclose a claimed invention except for having a dust boot restrictor disposed about the shank portion. Urbach et al., teach (Fig. 1) having a dust boot restrictor (R) disposed about the shank portion (12b-12d). It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the shank portion of Maughane et al. with a dust boot restrictor as taught by Urbach et al. in order to restrict the movement of the shank portion with respect to the housing.



With respect to claim 8, Maughane et al. disclose a claimed invention except for having a flexible dust cover coupled between the housing and the shank portion of the movable member. Urbach et al., teach (Fig. 1) a flexible dust cover (60) coupled between the housing (12) and the shank portion (34) of the movable member (32). It would have been obvious to one of ordinary skill in the art at the time of invention was made to provide Maughane et al. with a dust cover as taught by Urbach et al., in order to seal the open upper end of the housing.

Response to Arguments

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action, e.g. claim 1, line 4, the limitation of a metal lower bearing disposed within the central bore "**adjacent said closed end**" and lines 9-10, an annular metal upper bearing disposed about said moveable member within said central bore "**adjacent said open end**", was not claimed in original claimed invention. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nahid Amiri whose telephone number is (571) 272-8113. The examiner can normally be reached on 8:30-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nahid Amiri
Examiner
Art Unit 3679
April 23, 2007

Daniel P Stodola

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